

In the Claims: (strikethrough parts deleted and underlined parts added)

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)

8. (Original) A method of operating a plurality of valves in a spray chamber, said method comprising the steps of:

determining fluid presence at one or more of said valves;
opening one or more of said valves that have fluid present;
activating a pump fluidly connected to said valves; and
determining if a state change is required of any of said valves and executing said state changes if at least two valves are open.

9. (Original) The method of operating a plurality of valves in a spray chamber of Claim 8, including the step of executing a one valve open recovery routine when if a state change is required to open a second valve and only a first valve is currently open.

10. (Previously Amended) The method of operating a plurality of valves in a spray chamber of Claim 9, wherein said one valve open recovery routine is comprised of the following steps:

deactivating said pump;
opening said second valve after a delay time; and
reactivating said pump.

11. (Original) The method of operating a plurality of valves in a spray chamber of Claim 8, including the step of performing a routine valve scheduler routine upon said valves for maintaining said valves in their respective desired state.

12. (Original) The method of operating a plurality of valves in a spray chamber of Claim 11, wherein said routine valve scheduler routine is comprised of the steps of:

- (a) energizing a first valve to an appropriate state; and
- (b) repeating step (a) for a next valve.

13. (Original) The method of operating a plurality of valves in a spray chamber of Claim 11, wherein said routine valve scheduler routine is comprised of the steps of:

- (a) energizing a first valve to an appropriate state; and
- (b) repeating step (a) for a next valve after a time period.

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Previously Added) A method of operating a plurality of valves in a spray chamber, said method comprising the steps of:

- determining fluid presence at one or more of said valves;
- opening one or more of said valves that have fluid present; and
- determining if a state change is required of any of said valves and executing said state changes if at least two valves are open.

18. (Previously Added) The method of operating a plurality of valves in a spray chamber of Claim 17, including the step of executing a one valve open recovery routine when if a state change is required to open a second valve and only a first valve is currently open.

19. (Previously Added) The method of operating a plurality of valves in a spray chamber of Claim 18, wherein said one valve open recovery routine is comprised of the following steps:

Deactivating said pump;
opening said second valve after a delay time; and
reactivating said pump.

20. (Previously Added) The method of operating a plurality of valves in a spray chamber of Claim 17, including the step of performing a routine valve scheduler routine upon said valves for maintaining said valves in their respective desired state.

21. (Previously Added) The method of operating a plurality of valves in a spray chamber of Claim 20, wherein said routine valve scheduler routine is comprised of the steps of:

(a) energizing a first valve to an appropriate state; and
(b) repeating step (a) for a next valve.

22. (Previously Added) The method of operating a plurality of valves in a spray chamber of Claim 20, wherein said routine valve scheduler routine is comprised of the steps of:

(a) energizing a first valve to an appropriate state; and
(b) repeating step (a) for a next valve after a time period.

Please add the following Claims:

23. (New) A method of operating a plurality of valves in a spray chamber, said method comprising the steps of:

providing a spray chamber including at least one electronic device to be thermally managed within said spray chamber and a plurality of valves fluidly connected to said spray chamber, wherein said plurality of valves are fluidly connected to an intake of a pump and positioned near at least two interior corners of said spray chamber to collect coolant;

spraying a liquid coolant via at least one spray unit within said spray chamber upon said at least one electronic device, wherein said liquid coolant is comprised of a dielectric;

determining whether fluid is present at one or more of said plurality of valves via at least one fluid sensor near each of said plurality of valves; and

opening only one or more of said plurality of valves that have fluid present and not opening any of said plurality of valves that do not have fluid present.

24. (New) The method of operating a plurality of valves in a spray chamber, including the step of determining if a state change is required of any of said plurality of valves and executing said state changes if at least two of said plurality of valves are open.

C. APPLICANT'S COMMENTS

Claims 8-13, 17-24 are pending in this Application, with Claims 23-24 being added and with Claims 1-7, 14-16 canceled. No new matter is added by way of these amendments, and the amendments are supported throughout the Specification and the drawings. Reconsideration of Claims 8-13, 17-22 and favorable consideration of Claims 23-24 is respectfully requested. The Examiner's rejections will be considered in the order of their occurrence in the Office Action.

The Office Action rejected as-filed Claims 8-13, 17-22 under 35 U.S.C. §102(b) as being anticipated by Polk (U.S. Publication No. 2003/0132310). The Applicant respectfully disagrees with this rejection for at least the following reasons.

It is important to first briefly discuss 35 U.S.C. §102 and its application to the present application. Under 35 U.S.C. §102(b), anticipation requires that the prior art reference both (1) disclose, either expressly or under the principles of inherency, every limitation of the claim, and (2) be enabling thus placing the allegedly disclosed matter in the possession of the public.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."¹ "The identical invention must be shown in as complete detail as is contained in the ... claim."² Hence, under 35 U.S.C. §102, anticipation requires that each and every element of the claimed invention be disclosed in the prior art.³ Anticipation also requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.⁴ In addition, the prior art reference must be enabling, thus placing the allegedly disclosed matter in the possession of the public.⁵

¹ *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

² *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

³ *W.L. Gore & Assocs. v. Garlock, Inc.*, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

⁴ *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984).

⁵ *Akzo N.Y. v. United States Int'l Trade Comm'n*, 1 USPQ 2d 1241, 1245 (Fed. Cir. 1986), cert. denied, 482 U.S. 909 (1987) (emphasis added).

Independent Claim 8 has the following features:

8. (Original) A method of operating a plurality of valves in a spray chamber, said method comprising the steps of:
determining fluid presence at one or more of said valves;
opening one or more of said valves that have fluid present;
activating a pump fluidly connected to said valves; and
determining if a state change is required of any of said valves and
executing said state changes if at least two valves are open.

Independent Claim 17 has the following features:

17. (Previous Added) A method of operating a plurality of valves in a spray chamber, said method comprising the steps of:
determining fluid presence at one or more of said valves;
opening one or more of said valves that have fluid present; and
determining if a state change is required of any of said valves and
executing said state changes if at least two valves are open.

Independent Claim 23 has the following features:

23. (New) A method of operating a plurality of valves in a spray chamber, said method comprising the steps of:
providing a spray chamber including at least one electronic device to be thermally managed within said spray chamber and a plurality of valves fluidly connected to said spray chamber, wherein said plurality of valves are fluidly connected to an intake of a pump and positioned near at least two interior corners of said spray chamber to collect coolant;
spraying a liquid coolant via at least one spray unit within said spray chamber upon said at least one electronic device, wherein said liquid coolant is comprised of a dielectric;
determining whether fluid is present at one or more of said plurality of valves via at least one fluid sensor near each of said plurality of valves; and
opening only one or more of said plurality of valves that have fluid present and not opening any of said plurality of valves that do not have fluid present.

Polk teaches a “chemical sprayer.” (§10003.) More particularly, Polk merely teaches a tank 102 for storing a volume of chemical to be sprayed (§10031-32), a single “suction port 110” fluidly connected to a pump 118 by a length of conduit 112 (§10033), the control valves 124, 126, 128 (§10062-63), and a “flow meter 134” within the conduit 112 to measure the “flow rate” of

chemical solution through all of the control valves 124, 126, 128 (¶0039). Figure 2 of Polk is illustrated below and shows the features identified in the Office Action.

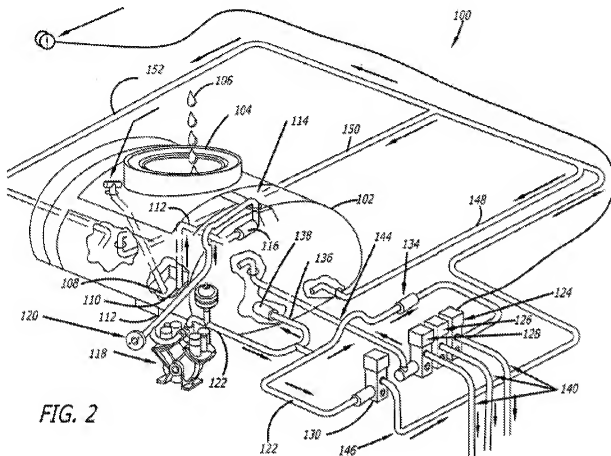


FIG. 2

Figure 2 of Polk

Polk does not teach at least the following features contained in independent Claim 8:

- determining fluid presence at one or more of said valves;
- opening one or more of said valves that have fluid present;
- determining if a state change is required of any of said valves and executing said state changes if at least two valves are open.

Polk does not teach at least the following features contained in independent Claim 17:

- determining fluid presence at one or more of said valves;

- opening one or more of said valves that have fluid present;
- determining if a state change is required of any of said valves and executing said state changes if at least two valves are open.

Polk also does not teach at least the following features contained in independent Claim 23:

- providing a spray chamber including at least one electronic device to be thermally managed within said spray chamber;
- a plurality of valves fluidly connected to said spray chamber;
- wherein said plurality of valves are fluidly connected to an intake of a pump;
- wherein said plurality of valves are positioned near at least two interior corners of said spray chamber to collect coolant;
- spraying a liquid coolant via at least one spray unit within said spray chamber upon said at least one electronic device;
- wherein said liquid coolant is comprised of a dielectric;
- determining whether fluid is present at one or more of said plurality of valves via at least one fluid sensor near each of said plurality of valves; and
- opening only one or more of said plurality of valves that have fluid present and not opening any of said plurality of valves that do not have fluid present.

The Office Action states that Polk discloses “determining fluid presence at one or more of said valves.” The Applicant respectfully submits that Polk merely determines the “flow rate” of fluid through the flow meter 134. Even if a calculation of the presence of fluid can be made with the flow meter, it is respectfully submitted that such calculation still would not provide data relating to the presence of fluid at the valves because the flow meter is positioned a significant distance away from the valves as shown in Figure 2 of Polk. Finally, Polk does not determine whether fluid is present at one or more of the valves and is incapable of the same since the flow meter is positioned within the conduit 122 which provides fluid to all of the valves and therefore

a determination cannot be made for individual valves (there is no reason to make such a determination in Polk).

The Office Action further states that Polk discloses “determining if a state change is required of any of said valves and executing said state changes *if at least two valves are open* (pg. 5, ¶64).” The Applicant respectfully submits that Polk does not change the state of the valves “if at least two valves are open.” In Polk, the valves will have their state changed even if there is only one valve that is open.

The Office Action further states that Polk discloses “executing a one valve open recovery routine when if a state change is required to open a second valve and only a first valve is currently open (pg. 5, ¶68).” However, the Applicant is unable to identify such a recovery routine within Polk or specifically ¶68 of Polk. The Applicant respectfully requests clarification of this rejection and the specific language that the Examiner is using to apply this rejection.

Page 2 of the Office Action further states that Polk discloses the step of “deactivating said pump (pg. 5, ¶67)” followed by “opening said second valve after a delay time (pg. 5, ¶68)” and then “reactivating said pump (pg. 5, ¶67-68).” The cited paragraphs provided by the Examiner merely discuss fluid pressures after a control valve 124 has been activated or deactivated – not the pump. The Applicant is unable to identify where Polk discusses “deactivating” the pump followed by “opening said second valve after a delay time” and then “reactivating said pump.” The Applicant respectfully requests clarification of this rejection and the specific language that the Examiner is using to apply this rejection.

Page 2 of the Office Action further states that Polk discloses “performing a routine valve scheduler” and the steps associated with the same. As with the previous matters, the Applicant is unable to identify such a “routine valve scheduler” in Polk (there is no need for such a practice in Polk since the valves are on the outlet side of the pump and not the inlet side as with the present